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9

10 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
11 REGION IX

12 In The Matter Of: )

13 The Sola Optical, USA Superfund Site, #J8 )  
14 Petaluma, California )

15 RESPONDENT: )

16 Pilkington Visioncare, Inc. )  
(Sola Optical, USA Inc.) )

U.S. EPA Docket  
No.92-07

17 Proceeding Under Section )  
106(a) of the )  
18 Comprehensive Environmental Response, )  
Compensation, and Liability Act of 1980, )  
19 as amended (42 U.S.C. § 9606(a)) )

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23 ADMINISTRATIVE ORDER  
24 FOR REMEDIAL DESIGN AND REMEDIAL ACTION  
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ADMINISTRATIVE ORDER  
FOR REMEDIAL DESIGN AND REMEDIAL ACTION

I. INTRODUCTION AND JURISDICTION

This Administrative Order (the "Order") is issued by the United States Environmental Protection Agency ("EPA") under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2926, January 29, 1987), and was further delegated to EPA Regional Administrators on September 13, 1987 by EPA Delegation No. 14-14-B. This Order is issued to Pilkington Visioncare, Inc. and Sola Optical USA, Inc. (together referred to as "Respondent") by EPA to perform the remedial design and remedial action as described in the Record of Decision for the Sola Optical USA, Site ("the Sola Optical Site" or "the Site"), dated September 27, 1991.

II. FINDINGS OF FACT

A. SITE DESCRIPTION

1. The Sola Optical Site includes the Sola Optical property and the areal extent of contamination necessary for the implementation of the response action. The Site is located in the southeastern margin of the City of Petaluma, Sonoma County, California. The City of Petaluma is in southern Sonoma County, approximately 50 miles north of San Francisco. The facility address is 1500 Cader Lane and is located just south of the Lakeville Highway intersection with Route 101.

1        2.    The 35 acre Sola Optical property is bordered on the  
2 north by Lakeville Highway and open fields. Open fields also  
3 border the south and southeast. To the northeast and across  
4 Lakeville Highway is residential development and the location of  
5 the City of Petaluma Station #5 Municipal Well. Industrial and  
6 commercial facilities are adjacent to the east and west. Land  
7 use in the site area is industrial. Land use adjacent to the  
8 Site is primarily industrial with residential and agricultural  
9 development.

10       3.    The topography of the area and the site gently slopes  
11 at a rate of 50 feet per mile from the low hills in the northeast  
12 towards the Petaluma River, located about one mile south west of  
13 the Sola Optical facility. The Site is underlain by a complex  
14 sequence of interbedded clays, silts and sands, with lesser  
15 amounts of gravel. Groundwater in shallow sediments in the site  
16 vicinity is generally encountered at elevations 9 to 12 feet  
17 below ground surface. The groundwater aquifer is unconfined and  
18 generally flows in a south southwesterly direction towards the  
19 Petaluma River.

20       4.    The Sola Optical facility manufactures ophthalmic  
21 lenses in a manufacturing building and has an adjacent  
22 administration building. Sola Optical began operation in 1987.  
23 Sola Optical previously stored 1,1,1-trichloroethane, acetone and  
24 methanol in six 1,000 gallon underground storage tanks. In May  
25 1982, Sola Optical identified low levels of solvents in  
26 groundwater near the underground solvent storage tanks. In 1985  
27 Sola Optical independently removed the underground tanks which  
28 reportedly included back-fill and some native soil.

1 B. REGULATORY AND ENFORCEMENT HISTORY

2 1. Some combination of waste disposal, discharge or  
3 handling of solvents in the vicinity of the former underground  
4 storage tanks resulted in site soil and groundwater contamination  
5 by chemicals described in the paragraphs above.

6 2. In 1983, the San Francisco Regional Water Quality  
7 Control Board (SFRWQCB) directed Sola Optical to investigate the  
8 groundwater at the Site. In 1987, the SFRWQCB issued Cleanup  
9 Order #87-038. In response to the Order Sola Optical constructed  
10 a groundwater extraction and treatment system which began  
11 operation in August 1988.

12 3. In June 1988, EPA proposed the Sola Optical Site for  
13 the National Priorities List (NPL).

14 4. In October 1989 negotiations with Sola to perform the  
15 Remedial Investigation/Feasibility Study (RI/FS) resulted in an  
16 EPA administrative consent order (docket #89-22).

17 5. In February 1990, EPA included the Sola Optical Site on  
18 the NPL.

19 6. Sola Optical performed the RI and completed the RI  
20 report on December 3, 1990.

21 7. Sola Optical performed the FS and completed the FS  
22 report on June 10, 1991.

23 8. EPA's decision for the remedial action to be  
24 implemented at the Site is embodied in a final Record of Decision  
25 (ROD), executed on September 27, 1991, which the State supported.  
26 The ROD is attached to this Order as Appendix 1 and is  
27 incorporated by reference. The ROD is supported by an  
28 Administrative Record that contains the documents and information

1 upon which EPA based the selection of the response action.

2 9. Sola Optical USA, Inc. is a subsidiary of Pilkington  
3 Vision Care, Inc. There are no other identifiable potentially  
4 responsible parties at this Site.

5 C. SITE CONTAMINATION

6 1. The primary contaminants of concern detected in soil  
7 and soil gas at the Site were determined in the Risk Assessment  
8 conducted by EPA to be present below health based standards and  
9 did not pose a continuing threat to ground water.

10 2. The excess lifetime cancer risk presented by use of on-  
11 site contaminated groundwater for drinking water is  $1 \times 10^{-4}$ . The  
12 primary contaminants of concern for groundwater include 1,1,1-  
13 Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene and Freon  
14 113. 1,1-Dichloroethene is a possible carcinogen.

15  
16 III. CONCLUSIONS OF LAW AND DETERMINATIONS

17 A. The Sola Optical Site is a "facility" as defined in Section  
18 101(9) of CERCLA, 42 U.S.C. § 9601(9).

19 B. The Respondent is a "person" as defined in Section 101(21)  
20 of CERCLA, 42 U.S.C. § 9601(21).

21 C. The Respondent is a "liable party" as owner and/or operator,  
22 currently or at the time of disposal, as defined in Section  
23 107(a) of CERCLA, 42 U.S.C. § 9607(a), and are subject to this  
24 Order under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

25 D. The substances listed in Section II, Paragraph C are found  
26 at the Site and are "hazardous substances" as defined in Section  
27 101(14) of CERCLA, 42 U.S.C. § 9601(14).

28 E. The past disposal and migration of hazardous substances from

1 the Site constitutes a "release" as defined in Section 101(22) of  
2 CERCLA, 42 U.S.C. § 9601(22).

3 F. The potential for continued migration of hazardous  
4 substances from the Site poses a threat of a "release" as  
5 defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

6 G. The release and threat of release of one or more hazardous  
7 substances from the site may present an imminent and substantial  
8 endangerment to the public health or welfare or the environment.

9 H. The actions required by this Order are necessary to protect  
10 the public health, welfare, and the environment.

#### 11 IV. NOTICE TO THE STATE

12 On December 9, 1991, prior to issuing this Order, EPA  
13 notified the SFRWQCB of EPA's intent to issue this Order.

#### 14 V. ORDER

15 Based on the foregoing, the Respondent is hereby ordered to  
16 comply with the following provisions, including but not limited  
17 to all appendices to this Order, all documents incorporated by  
18 reference into this Order, and all schedules and deadlines in  
19 this Order, attached to this Order, submitted or prepared by the  
20 Respondent and approved by EPA, or incorporated by reference into  
21 this Order:

#### 22 VI. DEFINITIONS

23 Unless otherwise expressly provided herein, terms used in  
24 this Order which are defined in CERCLA or in regulations  
25 promulgated under CERCLA shall have the meaning assigned to them  
26 in the statute or its implementing regulations. Whenever terms  
27 listed below are used in this Order or in the documents attached  
28 to this Order or incorporated by reference into this Order, the

1 following definitions shall apply:

2 "Cal-EPA" shall mean the Department of Toxic Substances  
3 Control, a department of the California Environmental Protection  
4 Agency, formerly the California Department of Health Services,  
5 Toxic Substances Control Program (DHS).

6 "CERCLA" shall mean the Comprehensive Environmental  
7 Response, Compensation, and Liability Act of 1980, as amended, 42  
8 U.S.C. §§ 9601 et seq.

9 "Clean-up Standard(s)" shall mean the levels of clean-up,  
10 and associated criteria, to be achieved in the groundwater.  
11 These standards and associated criteria shall include those  
12 identified in the ROD and the SOW and those established by the  
13 applicable or relevant and appropriate requirements ("ARARs")  
14 identified in the ROD and in the Scope of Work (SOW).

15 "Day" shall mean a calendar day unless expressly stated to  
16 be a working day. "Working day" shall mean a day other than a  
17 Saturday, Sunday, or federal holiday. In computing any period of  
18 time under this Order, where the last day would fall on a  
19 Saturday, Sunday, or federal holiday, the period shall run until  
20 the end of the next working day.

21 "DFG" shall mean the California Department of Fish and Game.

22 "EPA" shall mean the United States Environmental Protection  
23 Agency.

24 "SFRWQCB" shall mean the San Francisco Regional Water  
25 Quality Control Board.

26 "National Contingency Plan" or "NCP" shall mean the National  
27 Contingency Plan promulgated pursuant to Section 105 of CERCLA,  
28 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any



1 amendments thereto.

2 "Operation and Maintenance" or "O&M" shall mean all  
3 activities required under the Operation and Maintenance Plan  
4 developed by the Respondent pursuant to this Order and Section  
5 IX, (Work To Be Performed) and approved by EPA.

6 "Oversight" shall mean the United States' and/or its  
7 contractors' inspection of response actions and all other actions  
8 taken to verify the adequacy of all activities undertaken and  
9 reports submitted by the Respondent as required under the terms  
10 of this Order.

11 "Performance Standards" shall mean those cleanup standards,  
12 standards of control, and other substantive requirements,  
13 criteria or limitations, identified in the Record of Decision,  
14 Section IX (Work To Be Performed) and the SOW, that the Remedial  
15 Action and Work required by this Order must attain and maintain.

16 "Record of Decision" or "ROD" shall mean the EPA Record of  
17 Decision relating to the Site, signed by the Regional  
18 Administrator on September 27, 1991, all attachments and any  
19 amendments thereto. (Attached as Appendix 1 to this Order)

20 "Remedial Action" or "RA" shall mean those response  
21 activities to be undertaken by the Respondent to implement the  
22 remedy selected in the ROD and set forth in the SOW attached as  
23 Appendix 2 to this Order, including any additional activities  
24 required under Sections IX, X, XI, XII, and XXI of this Order.

25 "Remedial Design" or "RD" shall mean those response  
26 activities to be undertaken by the Respondent to develop any  
27 final plans and specifications for the Remedial Action pursuant  
28 to the SOW and this Order.

1 "Response Costs" shall mean all costs including,  
2 administrative enforcement, removal, investigative and remedial  
3 or other direct and indirect costs and accrued interest thereon,  
4 incurred by the United States pursuant to CERCLA. Response costs  
5 include but are not limited to oversight costs, which are the  
6 costs of overseeing the Work, such as the costs of reviewing or  
7 developing plans, reports and other items pursuant to this Order  
8 and costs associated with verifying the Work.

9 "Section" shall mean a portion of this Order identified by a  
10 roman numeral and includes one or more paragraphs.

11 "SOW" shall mean the Scope of Work for implementation of the  
12 Remedial Action and Operation and Maintenance at the Site, as set  
13 forth in Appendix 2 to this Order and any modifications made  
14 under this Order.

15 "Site" or "the Sola Optical USA Superfund Site" shall mean  
16 the Sola Optical property located at 1500 Cader Lane, Petaluma,  
17 California, and the areal extent of contamination and all  
18 suitable areas in very close proximity to the contamination  
19 necessary for the implementation of the response action.

20 "State" shall mean the San Francisco Regional Water Quality  
21 Control Board (SFRWQCB), the Department of Toxic Substances  
22 Control (Cal-EPA), and the California Department of Fish and Game  
23 (DFG).

24 "United States" shall mean the United States of America.

25 "Waste Material" shall mean (1) any "hazardous substance"  
26 under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any  
27 "pollutant" or "contaminant" under Section 101(33); or (3) any  
28 "hazardous waste" under Section 1004(5) of RCRA, 42 U.S.C.

1 § 6903(5), and any "solid waste" under Section 1004(27) of RCRA,  
2 42 U.S.C. § 6903(27).

3 "Work" shall mean all response activities Respondent is  
4 required to perform under this Order, including any Remedial  
5 Design, Remedial Action, Operation and Maintenance, and any  
6 activities required to be undertaken pursuant to the SOW,  
7 Sections IX (Work To Be Performed) through XVIII (Assurance of  
8 Ability To Complete Work).

9 "Work Plan" shall mean the work plan developed by the  
10 Respondent and approved by EPA which details the work to be  
11 conducted pursuant to this Order.

12 VII. NOTICE OF INTENT TO COMPLY

13 The Respondent shall provide, not later than 7 days after  
14 the effective date of this Order, written notice to EPA's  
15 Remedial Project Manager (RPM) stating the Respondent's intent to  
16 comply with the terms of this Order. If the Respondent does not  
17 unequivocally commit to perform the remedial action as provided  
18 by this Order, so refusing shall be deemed to have violated this  
19 Order and to have failed or refused to comply with this Order.  
20 The Respondent's written notice shall describe, using facts that  
21 exist on or prior to the effective date of this Order, any  
22 "sufficient cause" defenses asserted by Respondent, or any one of  
23 them, under Sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C.  
24 §§ 9606(b), 9607(c)(3). The absence of a response by EPA to the  
25 notice required by this paragraph shall not be deemed to be  
26 acceptance of the Respondent's assertions.

VIII. PARTIES BOUND

A. This Order shall apply to and be binding upon the Respondent identified and their directors, officers, employees, agents, successors, and assigns. The Respondent is jointly and severally responsible for carrying out all activities required by this Order. No change in the ownership, corporate status, or other control of the Respondent shall alter any of the Respondent's responsibilities under this Order.

B. The Respondent shall provide a copy of this Order to any prospective successors before a controlling interest in Respondent's assets, property rights, or stock are transferred to the prospective successor. The Respondent shall provide a copy of this Order to each contractor, sub-contractor, laboratory, or consultant retained to perform any Work under this Order, within five days after the effective date of this Order or on the date such services are retained, whichever date occurs later. The Respondent shall also provide a copy of this Order to each person representing them, or any one of them, with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to the Respondent within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, the Respondent is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with

1 this Order.

2 C. Within ten (10) days after the effective date of this  
3 Order, the Respondent shall record a copy of this Order in the  
4 appropriate governmental office where land ownership and transfer  
5 records are filed or recorded. The Respondent shall, within 15  
6 days after the effective date of this Order, send notice of such  
7 recording to EPA.

8 IX. WORK TO BE PERFORMED

9 A. GENERAL OBLIGATIONS

10 1. The Respondent shall cooperate with EPA and the State in  
11 providing information regarding the Work to the public. As  
12 requested by EPA, the Respondent shall participate in the  
13 preparation of such information for distribution to the public  
14 and in public meetings which may be held or sponsored by EPA to  
15 explain activities at or relating to the Site.

16 2. Notwithstanding any approvals which may be granted by  
17 the United States or other governmental entities, the Respondent  
18 shall assume any and all liability arising from or relating to  
19 their contractors, subcontractors, or any other person acting on  
20 their behalf in the performance of the remedial action components  
21 or their failure to perform fully or complete the remedial action  
22 components.

23 3. The Respondent shall appoint a representative ("Project  
24 Coordinator") to act on their behalf to execute the remedial  
25 action components. Within 7 days after the effective date of  
26 this Order, the Respondent shall notify EPA in writing of the  
27 name and qualifications of the Project Coordinator, including the  
28 support entities and staff, proposed to be used in carrying out

1 Work under this Order. If at any time the Respondent proposes to  
2 use a different Project Coordinator, the Respondent shall notify  
3 EPA in advance and shall obtain approval from EPA before the new  
4 Project Coordinator performs any Work under this Order.

5 4. EPA will review the Respondent's selection of a Project  
6 Coordinator according to the terms of this paragraph. If EPA  
7 disapproves of the selection of the Project Coordinator, the  
8 Respondent shall submit to EPA within 30 days after receipt of  
9 EPA's disapproval of the Project Coordinator previously selected,  
10 a list of Project Coordinators, including primary support  
11 entities and staff, that would be acceptable to the Respondent.  
12 EPA will thereafter provide notice to the Respondent of the names  
13 of the Project Coordinators that are acceptable to EPA. The  
14 Respondent may then select any approved Project Coordinator from  
15 that list and shall notify EPA of the name of the Project  
16 Coordinator selected within twenty-one (21) days of EPA's  
17 designation of approved Project Coordinators.

18 5. While the Respondent may collect, stage, and secure  
19 materials on-site, they shall not, in performance of response  
20 activities under this Order, treat and redispense of material upon  
21 the Site without the presence and/or approval of EPA or EPA's  
22 designated oversight personnel.

23 6. The Respondent shall dispose of any materials taken  
24 off-site in compliance with the EPA's Revised Procedures for  
25 Implementing Off-Site Response Actions ("Off-site Policy" EPA  
26 OSWER Directive 9834.11, November 13, 1987) and any amendments  
27 thereto, and the California Code of Regulations (CCR), Title 22,  
28 Chapter 30, Article 6.5, Requirements for Transporters of

1 Hazardous Waste.

2 7. The Respondent shall submit all reports (daily, weekly,  
3 monthly, etc.) prepared by their contractors and subcontractors  
4 to EPA's designated oversight personnel, and to the State  
5 according to the notice provisions and schedules set forth in the  
6 SOW.

7 8. The Respondent shall sample and monitor groundwater as  
8 specified in the SOW.

9  
10 B. IDENTIFICATION OF AND OBLIGATIONS REGARDING DOCUMENTS TO BE  
11 SUBMITTED TO EPA

12 1. Remedial Design/Remedial Action Work Plan: Within 30  
13 days of the effective date of this Order, the Respondent shall  
14 submit a Remedial Design/Remedial Action Work Plan to EPA and the  
15 State. The Remedial Design/Remedial Action Work Plan shall  
16 provide for design of the remedy set forth in the ROD in  
17 accordance with the SOW and, upon its approval by EPA, shall be  
18 incorporated into and become enforceable under this Order. In  
19 accordance with the attached SOW, the Respondent shall submit to  
20 EPA and a revised Health and Safety Plan for field design  
21 activities which conforms to the applicable Occupational Safety  
22 and Health Administration and EPA requirements including, but not  
23 limited to, 29 C.F.R. § 1910.120.

24 a. The Remedial Design/Remedial Action Work Plan shall  
25 include plans and schedules for implementation of all remedial  
26 design tasks identified in the SOW.

27 b. Upon approval by EPA of the Remedial  
28 Design/Remedial Action Work Plan, the Respondent shall submit all

1 plans, submittals and other deliverables required under the Work  
2 Plan.

3 c. The Remedial Design/Remedial Action Work Plan  
4 submittal shall include, at a minimum, the following: (1)  
5 preliminary plans, drawings and sketches; (2) well design  
6 construction diagrams; (3) required specifications in outline  
7 form; (4) preliminary construction schedule; (5) Health and  
8 Safety Plan; (6) Sample Plan protocol; and (7) construction  
9 quality assurance project plan (CQAPP).

10 d. The CQAPP, which shall detail the approach to  
11 quality assurance during construction activities at the site,  
12 shall specify a quality assurance official ("QA Official"), to  
13 conduct a quality assurance program during the construction phase  
14 of the project.

15 e. The Remedial Design/Remedial Action Work Plan  
16 shall contain a "Operation and Maintenance Plan". The Operation  
17 and Maintenance Plan shall provide a description of planned O&M  
18 activities including frequency of groundwater monitoring,  
19 reporting and compliance reviews. Upon its approval by EPA, the  
20 Remedial O&M Plan shall be incorporated into and become  
21 enforceable under this Order.

22 f. The Operation and Maintenance Plan shall contain  
23 all items specified in the attached SOW, including the following:  
24 (1) procedures and plans for the decontamination of equipment and  
25 the disposal of contaminated materials, and (2) a description of  
26 the monitoring plan to be implemented to demonstrate compliance  
27 with ROD standards through confirmation sampling.

28 2. Quarterly Progress Reports



1           a. Within 90 days after the issuance of the order, the  
2 Respondent shall submit to EPA and the State, the first quarterly  
3 progress report. The progress reports shall include, but not be  
4 limited to the information as described in the SOW.

5           3. After review of any deliverable, plan, report, or other  
6 item which is required to be submitted for review and approval  
7 pursuant to this Order, EPA may: (a) approve the submission; (b)  
8 approve the submission with modifications; (c) disapprove the  
9 submission and direct Respondent to re-submit the document after  
10 incorporating EPA's comments; or (d) disapprove the submission  
11 and assume responsibility for performing all or any part of the  
12 response action. As used in this Order, the terms "approval by  
13 EPA", "EPA approval" or a similar term mean the action described  
14 in subparagraphs (a) or (b) of this paragraph.

15           4. In the event of approval or approval with modifications  
16 by EPA, the Respondent shall proceed to take any action required  
17 by the deliverable, plan, report, or other item, as approved or  
18 modified by EPA.

19           5. Upon receipt of the notice of disapproval or a request  
20 for modification, the Respondent shall, within fourteen (14)  
21 days, correct the deficiencies and resubmit the deliverable,  
22 plan, report or other item for approval. Notwithstanding the  
23 notice of disapproval, the Respondent shall proceed, at the  
24 direction of EPA, to take any action required by any  
25 non-deficient portion of the submission.

26           6. If any submission is not approved by EPA, the Respondent  
27 shall be deemed to be in violation of this Order.  
28

1 C. ADDITIONAL OBLIGATIONS

2 1. Neither the Work Plan nor any approvals, permits or  
3 other permissions which may be granted by EPA related to this  
4 Order constitute a warranty or representation of any kind by the  
5 United States that the Work Plan will achieve the standards set  
6 forth in the ROD, and in the SOW, and shall not foreclose the  
7 United States from seeking performance of all terms and condi-  
8 tions of this Order.

9 Nothing in this Order shall be construed to relieve the  
10 Respondent of its obligations to achieve all Clean-up Standards  
11 and Performance Standards set forth in the ROD and in the SOW.  
12 Following termination of this Order, if post- termination  
13 monitoring indicates that the groundwater Clean-up Standards are  
14 being exceeded, the Respondent shall recommence treatment of the  
15 groundwater until Clean-up Standards have been achieved.

16 2. The Respondent shall meet all Clean-up Standards and  
17 Performance Standards identified in the ROD and the SOW,  
18 including, but not limited to those set forth in Section III of  
19 the SOW.

20 3. In the event EPA determines that the Respondent has  
21 failed to implement the Remedial Action or any portions thereof  
22 in a timely or adequate manner, EPA or its designee may perform  
23 such portions of the Remedial Action as EPA determines may be  
24 necessary. If EPA performs all or portions of the Remedial  
25 Action because of the Respondent's failure to comply with their  
26 obligations under this Order, the Respondent shall be liable to  
27 EPA for the costs of doing such work pursuant to Section 107(a)  
28 of CERCLA, plus civil penalties as set forth in Section XX.E of

1 this Order.

2 X. ADDITIONAL WORK

3 A. In the event that EPA or the Respondent determines that  
4 additional response work is necessary to protect human health and  
5 the environment, to carry out the remedy described in the ROD or  
6 to meet the Performance or Clean-up Standards described in the  
7 ROD, the SOW, or in Section IX (Work To Be Performed) of this  
8 Order, the Respondent shall implement such additional work.  
9 Notification of any additional work will be provided to the  
10 Project Coordinator.

11 B. Unless otherwise stated by EPA, within 30 days of  
12 receipt of notice by EPA that additional work is necessary  
13 pursuant to this Section, the Respondent shall submit a work plan  
14 as specified by EPA. The plan shall conform to the requirements  
15 in Section IX (Work To Be Performed).

16 C. Any additional work determined to be necessary by the  
17 Respondent is subject to approval by EPA.

18 D. Any additional work determined to be necessary by the  
19 Respondent and approved by EPA, or determined to be necessary by  
20 EPA to protect human health and the environment, to carry out the  
21 remedy described in the ROD or to meet the Performance or Clean-  
22 up Standards, shall be completed by the Respondent in accordance  
23 with the standards, specifications, and schedules approved by  
24 EPA.

25 E. If EPA disapproves the plan pursuant to the provisions  
26 of Section IX (Work To Be Performed), within 14 days of such  
27 disapproval, the Respondent, consistent with Section IX (Work to  
28 Be Performed), shall submit a modified plan.

1 F. The Respondent shall promptly implement the plan as  
2 approved or modified by EPA.

3 XI. EPA PERIODIC REVIEW

4 Under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any  
5 applicable regulations, EPA may review conditions at the Site to  
6 assure that the work performed pursuant to this Order adequately  
7 protects human health and the environment. Until such time as  
8 EPA certifies completion of the work, the Respondent shall  
9 conduct the requisite studies, investigations, or other response  
10 actions as determined necessary by EPA in order to permit EPA to  
11 conduct the review under Section 121(c) of CERCLA. As a result  
12 of any review performed under this paragraph, Respondent may be  
13 required to perform additional work or to modify work previously  
14 performed.

15 XII. ENDANGERMENT AND EMERGENCY RESPONSE

16 A. In the event of any action or occurrence during the  
17 performance of the Work which causes or threatens to cause a  
18 release of a hazardous substance or which may present an  
19 immediate threat to public health or welfare or the environment,  
20 the Respondent shall immediately take all appropriate action to  
21 prevent, abate, or minimize the threat, and shall immediately  
22 notify the State and EPA Remedial Project Managers. If EPA's RPM  
23 is not available, the Respondent shall notify the EPA Emergency  
24 Response Section, Region 9. The Respondent shall take such  
25 action in consultation with EPA's RPM (or the EPA Emergency  
26 Response Section, Region 9, if the RPM is not available) and in  
27 accordance with all applicable provisions of this Order,  
28 including but not limited to the Health and Safety Plan and the

1 Contingency Plan. In the event that the Respondent fails to take  
2 the appropriate response action as required by this Section, and  
3 EPA takes that action instead, the Respondent shall be liable to  
4 EPA for all costs of the response action pursuant to Section 107  
5 of CERCLA.

6 B. Nothing in the preceding paragraph shall be deemed to  
7 limit any authority of the United States or the State to take,  
8 direct, or order all appropriate action to protect human health  
9 and the environment or to prevent, abate, or minimize an actual  
10 or threatened release of hazardous substances on, at, or from the  
11 Site.

#### 12 XIII. COMPLIANCE WITH APPLICABLE LAWS

13 A. Except as provided in Section 121(e) of CERCLA and the  
14 NCP, no permit shall be required for any portion of the work  
15 conducted entirely on-Site; however, the Respondent shall meet  
16 all substantive requirements of ARARs as set forth in the ROD.  
17 Where any portion of the Work requires a Federal or state permit  
18 or approval, the Respondent shall submit timely applications and  
19 take all other actions necessary to obtain and to comply with all  
20 such permits or approvals.

21 B. All activities conducted by the Respondent pursuant to  
22 this Order shall be performed in accordance with the  
23 requirements of all Federal and state laws and regulations. EPA  
24 has determined that the activities contemplated by this Order are  
25 consistent with the National Contingency Plan (NCP).

26 C. This Order is not, and shall not be construed to be, a  
27 permit issued pursuant to any Federal or state statute or  
28 regulation.

1       XIV.   EPA REMEDIAL PROJECT MANAGER; STATE PROJECT MANAGERS

2       A. All communications, whether written or oral, from the  
3 Respondent to EPA shall be directed to EPA's Remedial Project  
4 Manager (RPM). The Respondent shall submit to EPA two copies,  
5 and one copy to the SFRWQCB, of all deliverables, documents,  
6 including plans, reports, and other correspondence, which are  
7 developed pursuant to this Order, and shall send these documents  
8 by overnight mail.

9       EPA's Remedial Project Manager is:

10           Michael Montgomery  
11           EPA, Region IX  
12           75 Hawthorne St H-7-1  
13           San Francisco, CA 94105

14       B. EPA has the unreviewable right to change its Remedial  
15 Project Manager. If EPA changes its Remedial Project Manager,  
16 EPA will inform the Respondent in writing of the name, address,  
17 and telephone number of the new Remedial Project Manager.

18       C. EPA's RPM shall have the authority lawfully vested in a  
19 Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by  
20 the National Contingency Plan, 40 C.F.R. Part 300. EPA's RPM  
21 shall have authority, consistent with the National Contingency  
22 Plan, to halt any work required by this Order, and to take any  
23 necessary response action.

24       D. All communications, whether written or oral, from the  
25 Respondent to the State shall be directed to State project  
26 managers as follows:

27           As to the SFRWQCB:

28           Cecil Felix  
            Project Coordinator  
            Regional Water Quality Control Board  
            San Francisco Region

1 1800 Harrison st. Suite 700  
2 Oakland, CA. 94612

3 As to Cal-EPA:

4 David Clark  
5 Department of Toxic Substances Control  
6 50 D st.  
7 Santa Rosa, CA 95404

8 XV. SITE ACCESS AND DATA/DOCUMENT AVAILABILITY

9 A. To the extent that the Site or other areas where work is  
10 to be performed under this Order is presently owned or controlled  
11 by parties other than those bound by this Order and to the extent  
12 that access to or easements over property is required for the  
13 proper and complete performance of this Order, the Respondent  
14 shall cooperate and work in conjunction with the present owners  
15 or those persons who have control over the property, including  
16 lessees, to obtain access agreements within sixty (60) days of  
17 the effective date of this Order. Site access agreements shall  
18 provide access to EPA, its contractors and representatives, and  
19 to the Respondent and their contractor(s) and authorized  
20 representatives, and such agreements shall specify that the  
21 Respondent is not EPA's representatives with respect to liability  
22 associated with Site activities.

23 B. The Respondent shall save and hold harmless the United  
24 States and its officials, agents, employees, contractors, sub-  
25 contractors, or representatives for or from any and all claims or  
26 causes of action or other costs incurred by the United States  
27 including but not limited to attorneys fees and other expenses of  
28 litigation and settlement arising from or on account of acts or  
omissions of Respondent, their officers, directors, employees,

1 agents, contractors, subcontractors, and any persons acting on  
2 their behalf or under their control, in carrying out activities  
3 pursuant to this Order.

4 C. In the event that site access agreements are not  
5 obtained within the sixty (60) day period, the Respondent shall  
6 notify EPA within sixty five (65) days of the effective date of  
7 this Order regarding both the lack of, and efforts to obtain,  
8 such agreements. If the Respondent fails to gain access within  
9 60 days, it shall continue to use best efforts to obtain access  
10 until access is granted. For purposes of this paragraph, "best  
11 efforts" includes but is not limited to, seeking judicial  
12 assistance and the payment of money as consideration for access.

13 D. The Respondent or any of its agents or representatives  
14 shall allow EPA and its authorized representatives and  
15 contractors, the State and its authorized representatives and  
16 contractors, to enter and freely move about all property at the  
17 Site and off-Site areas subject to or affected by the work under  
18 this Order or where documents required to be prepared or  
19 maintained by this Order are located, for the purposes of in-  
20 specting conditions, activities, the results of activities,  
21 records, operating logs, and contracts related to the Site or the  
22 Respondent and its representatives or contractors pursuant to  
23 this Order; reviewing the progress of the Respondent in carrying  
24 out the terms of this Order; conducting tests as EPA or its  
25 authorized representatives or contractors deem necessary; using a  
26 camera, sound recording device or other documentary type  
27 equipment; and verifying the data submitted to EPA by the  
28 Respondent. The Respondent shall allow EPA and its authorized



1 representatives to enter the Site, to inspect and copy all  
2 records, files, photographs, documents, sampling and monitoring  
3 data, and other writings related to work undertaken in carrying  
4 out this Order. Nothing herein shall be interpreted as limiting  
5 or affecting EPA's right of entry or inspection authority under  
6 Federal law.

7 E. The Respondent may assert a claim of business  
8 confidentiality covering part or all of the information submitted  
9 to EPA pursuant to the terms of this Order under 40 C.F.R.  
10 § 2.203, provided such claim is not inconsistent with Section  
11 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7) or other provisions  
12 of law. This claim shall be asserted in the manner described by  
13 40 C.F.R. § 2.203(b) and substantiated by the Respondent at the  
14 time the claim is made. Information determined to be  
15 confidential by EPA will be given the protection specified in 40  
16 C.F.R. Part 2. If no such claim accompanies the information when  
17 it is submitted to EPA, it may be made available to the public by  
18 EPA or the state without further notice to the Respondent. The  
19 Respondent shall not assert confidentiality claims with respect  
20 to any data related to Site conditions, sampling, or monitoring.

21 F. The Respondent shall maintain for the period during  
22 which this Order is in effect, an index of any materials,  
23 records or documents relating to activities at the Site or to the  
24 implementation of this Order, that the Respondent claims contain  
25 confidential business information. The index shall contain, for  
26 each item, the date, author, addressee, and subject of the item.  
27 Upon written request from EPA, the Respondent shall submit a copy  
28 of the index to EPA.

1 G. Any person obtaining access to the Site pursuant to this  
2 provision shall comply with all applicable provisions of the  
3 Worker Health and Safety Plan as submitted pursuant to the SOW.

4 H. Notwithstanding any provision of this Order, the United  
5 States retains all of its access authorities and rights under  
6 CERCLA, RCRA and any other applicable federal statute or  
7 authority.

8 I. The Respondent shall provide to EPA upon request, copies  
9 of all documents and information within their possession and/or  
10 control or that of its contractors or agents relating to  
11 activities at the Site or to the implementation of this Order,  
12 including but not limited to sampling, analysis, chain-of-custody  
13 records, manifests, trucking logs, receipts, reports, sample  
14 traffic routing, correspondence, or other documents or  
15 information related to the Work. The Respondent shall also make  
16 available to EPA for purposes of investigation, information  
17 gathering, or testimony, its employees, agents, or  
18 representatives with knowledge of relevant facts concerning the  
19 performance of the work.

20 XVI. RECORD PRESERVATION

21 A. For a period of ten (10) years following the date upon  
22 which EPA provides notice to the Respondent that the work has  
23 been completed, the Respondent shall preserve and retain all  
24 records and documents in their possession or control, including  
25 the documents in the possession or control of their contractors  
26 and agents on and after the effective date of this Order that  
27 relate in any manner to the Site. At the conclusion of this  
28 document retention period, the Respondent shall notify the United

1 States at least ninety (90) calendar days prior to the  
2 destruction of any such records or documents, and upon request by  
3 the United States, the Respondent shall deliver any such records  
4 or documents to EPA.

5 B. Within 10 days after the effective date of this Order,  
6 the Respondent shall submit to EPA a certification, signed by an  
7 appropriate responsible corporate official, that states that to  
8 the best of the official's knowledge and belief, after a thorough  
9 investigation of that Respondent's officers, directors,  
10 employees, agents, contractors, subcontractors or any person  
11 familiar with the information described in the certification,  
12 that it has not altered, mutilated, discarded, destroyed or  
13 otherwise disposed of any records, documents or other information  
14 relating to its potential liability with regard to the Site since  
15 notification of potential liability by the United States or the  
16 State or the filing of suit against it regarding the Site and  
17 that it has fully complied with any and all EPA requests for  
18 information pursuant Section 104(e) and 122(e) of CERCLA, 42  
19 U.S.C. §§ 9604(e), 9622(e). The Respondent shall not dispose of  
20 any such documents without prior approval by EPA. The Respondent  
21 shall, upon EPA's request and at no cost to EPA, deliver the  
22 documents or copies of the documents to EPA.

23 XVII. DELAY IN PERFORMANCE

24 A. Any delay in performance of this Order that, in EPA's  
25 judgment, is not justified by the Respondent under the terms of  
26 this Section shall be considered a violation of this Order. Any  
27 delay in performance of this Order shall not affect the  
28 Respondent's obligations to fully perform all obligations under

1 the terms and conditions of this Order.

2 B. The Respondent shall notify EPA and the State of any  
3 delay or anticipated delay in performing any requirement of this  
4 Order. Such notification shall be made by telephone to EPA's RPM  
5 within forty eight (48) hours after the Respondent first knew or  
6 should have known that a delay might occur. The Respondent shall  
7 adopt all reasonable measures to avoid or minimize any such  
8 delay. Within five (5) business days after notifying EPA by  
9 telephone, the Respondent shall provide written notification  
10 fully describing the nature of the delay, any justification for  
11 delay, any reason why the Respondent should not be held strictly  
12 accountable for failing to comply with any relevant requirements  
13 of this Order, the measures planned and taken to minimize the  
14 delay, and a schedule for implementing the measures that will be  
15 taken to mitigate the effect of the delay. Increased costs or  
16 expenses associated with implementation of the activities called  
17 for in this Order is not a justification for any delay in  
18 performance.

19 XVIII. ASSURANCE OF ABILITY TO COMPLETE WORK

20 A. The Respondent shall demonstrate its ability to complete  
21 the work required by this Order and to pay all claims that arise  
22 from the performance of the work by obtaining and presenting to  
23 EPA within thirty (30) days after approval of the Work Plan, one  
24 of the following: (1) a performance bond; (2) a letter of credit;  
25 (3) a guarantee by a third party; or (4) internal financial in-  
26 formation to allow EPA to determine that the Respondent has  
27 sufficient assets available to perform the Work. The Respondent  
28 shall demonstrate financial assurance in an amount no less than

1 the estimate of cost for the Remedial Design and Remedial Action.  
2 If the Respondent seeks to demonstrate ability to complete the  
3 Remedial Action by means of internal financial information, or by  
4 guarantee of a third party, they shall re-submit such information  
5 annually, on the anniversary of the effective date of this Order.  
6 If EPA determines that such financial information is inadequate,  
7 the Respondent shall, within thirty (30) days after receipt of  
8 EPA's notice of determination, obtain and present to EPA for  
9 approval one of the other three forms of financial assurance  
10 listed above.

11 B. At least seven (7) days prior to commencing any work at  
12 the Site pursuant to this Order, the Respondent shall submit to  
13 EPA a certification that the Respondent or its contractors and  
14 subcontractors have adequate insurance coverage or have  
15 indemnification for liabilities for injuries or damages to  
16 persons or property which may result from the activities to be  
17 conducted by or on behalf of the Respondent pursuant to this  
18 Order. The Respondent shall ensure that such insurance or  
19 indemnification is maintained for the duration of performance of  
20 the Work required by this Order.

21 XIX. UNITED STATES NOT LIABLE

22 The United States, by issuance of this Order, assumes no  
23 liability for any injuries or damages to persons or property  
24 resulting from acts or omissions by the Respondent, or its  
25 directors, officers, employees, agents, representatives,  
26 successors, assigns, contractors, or consultants in carrying out  
27 any action or activity pursuant to this Order. Neither EPA nor  
28 the United States may be deemed to be a party to any contract

1 entered into by the Respondent or its directors, officers,  
2 employees, agents, successors, assigns, contractors, or  
3 consultants in carrying out any action or activity pursuant to  
4 this Order.

5 XX. ENFORCEMENT AND RESERVATIONS

6 A. EPA reserves the right to bring an action against the  
7 Respondent under Section 107 of CERCLA, 42 U.S.C. § 9607, for  
8 recovery of any response costs incurred by the United States  
9 related to this Order and not reimbursed by the Respondent. This  
10 reservation shall include but not be limited to past costs not  
11 recovered by EPA, direct costs, indirect costs, the costs of  
12 oversight, the costs of compiling the cost documentation to  
13 support oversight cost demand, as well as accrued interest as  
14 provided in Section 107(a) of CERCLA.

15 B. Notwithstanding any other provision of this Order, at any  
16 time during the response action, EPA may perform its own studies,  
17 complete the response action (or any portion of the response  
18 action) and seek reimbursement from the Respondent for its costs,  
19 or seek any other appropriate relief.

20 C. Nothing in this Order shall preclude EPA from taking any  
21 additional enforcement actions, including modification of this  
22 Order to include performance of all remedial design and remedial  
23 action as set forth in the ROD, or issuance of additional Orders,  
24 and/or additional remedial or removal actions as EPA may deem  
25 necessary, or from requiring the Respondent in the future to  
26 perform additional activities pursuant to CERCLA, 42 U.S.C.  
27 § 9606(a), et seq., or any other applicable law. The Respondent  
28 shall be liable under CERCLA Section 107(a), 42 U.S.C. § 9607(a),

1 for the costs of any such additional actions.

2 D. Notwithstanding any provision of this Order, the United  
3 States hereby retains all of its information gathering,  
4 inspection and enforcement authorities and rights under CERCLA,  
5 RCRA and any other applicable statutes or regulations.

6 E. The Respondent shall be subject to civil penalties under  
7 Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than  
8 \$25,000 for each day in which Respondent willfully violates, or  
9 fails or refuses to comply with this Order without sufficient  
10 cause. In addition, failure to properly provide response action  
11 under this Order, or any portion hereof, without sufficient  
12 cause, may result in liability under Section 107(c)(3) of CERCLA,  
13 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at  
14 least equal to, and not more than three times the amount of any  
15 costs incurred by the Fund as a result of such failure to take  
16 proper action.

17 F. Nothing in this Order shall constitute or be construed as  
18 a release from any claim, cause of action or demand in law or  
19 equity against any person for any liability it may have arising  
20 out of or relating in any way to the Site.

21 G. If a court issues an order that invalidates any provision  
22 of this Order or finds that the Respondent has sufficient cause  
23 not to comply with one or more provisions of this Order, the  
24 Respondent shall remain bound to comply with all provisions of  
25 this Order not invalidated by the court's order.

26 XXI. EFFECTIVE DATE AND COMPUTATION OF TIME

27 This Order shall be effective when the Order is signed by  
28 the Director, Hazardous Waste Management Division. All times for

1 performance of ordered activities shall be calculated from this  
2 effective date.

3 XXII. OPPORTUNITY TO CONFER

4 A. The Respondent may confer with EPA's Deputy Director for  
5 Superfund, Hazardous Waste Management Division, or whomever the  
6 Deputy Director for Superfund may designate, to discuss this  
7 Order. The conference shall occur on either January 30th or  
8 January 31st, 1992, at 75 Hawthorne Street, San Francisco,  
9 California.

10 B. The purpose and scope of the conference shall be limited  
11 to issues involving the implementation of the response actions  
12 required by this Order and the extent to which the Respondent  
13 intends to comply with this Order. This conference is not an  
14 evidentiary hearing, and does not constitute a proceeding to  
15 challenge this Order. It does not give the Respondent a right to  
16 seek review of this Order, or to seek resolution of potential  
17 liability, and no official stenographic record of the conference  
18 will be made. At any conference held pursuant to Respondent's  
19 request, the Respondent may appear in person or by an attorney or  
20 other representative.

21 Notification of the preferred conference date for the  
22 Respondent must be made by the Respondent by telephone within 7  
23 days of receipt of this Order, to Michael Montgomery, at (415)  
24 744-2403.

25 So Ordered, this 9th day of January, 1992.

26 BY: Keith Taka  
27 Jeff Zelikson, Director  
28 ~~by~~ Hazardous Waste Management Division  
U.S. Environmental Protection Agency, Region IX



SCOPE OF WORK  
FOR  
THE REMEDIAL DESIGN AND ACTION  
AT  
THE SOLA OPTICAL SITE  
PETALUMA, SONOMA COUNTY, CALIFORNIA

I. PURPOSE

The purpose of this Scope of Work (SOW) is to fully implement the Record of Decision (ROD) for the Sola Optical Site which was signed by the Regional Administrator on September 27, 1991. The U.S. EPA Superfund Remedial Design and Remedial Action Guidance (OSWER Directive 9355.0-04A, June 1986), the Final Record of Decision, the approved Remedial Design/Remedial Action (RD/RA) Work Plan (to be developed as a submittal under this SOW), this SOW, and any additional guidance provided by EPA shall be followed in designing, implementing, and submitting documents for the Remedial Action at the Sola Optical Site.

II. DESCRIPTION OF THE REMEDIAL ACTION

This SOW identifies the clean-up standards and specifications of the major components of the Remedial Action for the Sola Optical Site which shall be designed and implemented by the Respondent. The major components of the Remedial Action are as follows:

Component 1: Operate existing extraction wells (8) and enhance system through construction and operation of two (2) additional shallow extraction wells, conversion of deep monitoring

1 wells to deep extraction wells and the  
2 construction and operation of additional piping  
3 for the new and converted wells.  
4

5 Component 2: Groundwater monitoring to demonstrate hydraulic  
6 capture of contaminated groundwater and to  
7 demonstrate restoration of groundwater to  
8 cleanup standards throughout the aquifer.

9 The Respondent shall prepare a Remedial Design/Remedial  
10 Action work plan as specified in this SOW. A description of the  
11 components and required plans are provided in the following  
12 section.  
13

14 A. Documentation of Existing Systems

15 The Respondent shall describe in the Remedial Design/Remedial  
16 Action Work Plan the existing extraction and treatment system. All  
17 areas of pertinent operations should be described including but not  
18 limited to; locations of clean equipment and materials staging and  
19 storage areas, the equipment and personnel decontamination areas,  
20 the water treatment facility and associated tanks and piping,  
21 groundwater extraction well field, and the location of treated  
22 water disposal or discharge points and facilities.

23 The performance of the treatment system will be monitored on a  
24 regular basis and reported to EPA. EPA may require adjustments to  
25 the treatment system as warranted by the treatment system  
26 monitoring results. Examples of adjustments can include changes in  
27 flow and pumping rates, changes in treatment scheme, or the  
28 addition of effluent polishing procedures.

29 The Respondent shall handle and dispose of hazardous residuals  
30 from the treatment facility in a manner that is protective of human

1 health and the environment and in compliance with Federal and State  
2 regulations.

3 The Respondent shall identify in the Remedial Design/Remedial  
4 Action Work Plan and then design as appropriate the disposal method  
5 for groundwater. Disposal options available to the Respondent  
6 include, but are not limited to, on-site treatment and discharge  
7 off-site or discharge to the City of Petaluma sewage treatment  
8 system.

9 B. Additional Components required to Enhance the Extraction  
10 System

11 The Respondent shall design and construct the components of an  
12 extraction system capable of restoring the groundwater in the  
13 aquifer to the ROD cleanup standards. The additional components of  
14 the extraction system shall include two additional shallow  
15 extraction wells, conversion of two deep monitoring wells to  
16 extraction wells, pumps and piping of sufficient size to transport  
17 water to the water treatment facility or discharge point.

18 Extraction of contaminated groundwater shall continue until levels  
19 of contaminants in groundwater are reduced to the ROD cleanup  
20 standards at the point of compliance. The point of compliance is  
21 defined as the entire aquifer within or adjacent to the site.

22 C. Groundwater Monitoring and Achievement of Clean-up Standards

23 The Respondent shall sample and analyze water at various wells  
24 within the monitoring system to demonstrate the effectiveness of  
25 the system in restoring the groundwater to ROD cleanup standards.  
26 Depths, locations and frequency of sampling shall be identified in

1 the Remedial Design/Remedial Action Work Plan. The Respondent  
2 shall establish a network of monitoring wells within and adjacent  
3 to the contaminated aquifer. The wells to be sampled and the  
4 frequency of sampling shall be identified in the Remedial  
5 Design/Remedial Action Work Plan and implemented as approved by  
6 EPA.

1       The Respondent shall monitor groundwater quality and the  
2 effectiveness of the extraction system on a regular basis. Based  
3 on the performance data, EPA will periodically re-evaluate the  
4 remedy every five years with the first evaluation in October 1993.

5       It may become apparent, during implementation or operation of  
6 the groundwater extraction system, that contaminant levels have  
7 ceased to decline and are remaining constant at levels higher than  
8 the cleanup standards. Based on the performance data, operation of  
9 the extraction system will be adjusted as warranted if so  
10 determined during the periodic EPA evaluations. EPA may also  
11 require adjustments to the monitoring system.

12 D. Post-extraction Compliance Monitoring

13       EPA will determine the duration of the compliance monitoring,  
14 following the completion of the extraction system operations, based  
15 on data trends in groundwater concentrations of residual  
16 contaminants. Periodic review of the compliance monitoring system  
17 shall occur at the same five year intervals as the remedy re-  
18 evaluations in Section II.(C). EPA and the State shall review the  
19 need to continue the compliance monitoring requirement. If  
20 groundwater compliance monitoring indicates that the concentration  
21 of contaminants has increased above aquifer clean-up standards  
22 after cessation of pumping, the Respondent shall notify EPA and  
23 reactivate the groundwater extraction and treatment systems.

### III. CLEAN-UP STANDARDS

The Respondent shall meet all clean-up standards identified in the ROD with respect to the Remedial Action at the Site, including but not limited to the following:

### A. AQUIFER CLEAN-UP STANDARDS

<u>Contaminant</u>	<u>Standard (ppb)</u>
1,1 Dichloroethene	6
1,1 Dichloroethane	5
1,1,1 Trichloroethane	200
Freon 113	1,200

#### IV. SCOPE OF REMEDIAL DESIGN AND REMEDIAL ACTION

**A. Task 1: REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN**

1. The Respondent shall develop and submit a Remedial Design/Remedial Action Work Plan for the components of the Remedial Action that shall document the overall management strategy and schedule for performing the design, construction, operation, maintenance, and monitoring and submit the Work Plan for EPA review and approval. The Work Plan shall briefly describe each component of the Remedial Action, but shall present in detail any additional field or pilot testing work necessary to complete each component including documenting data collection events, requirements, procedures, frequencies, analytical methods, quality control procedures, and worker protection.

The Work Plan shall document the responsibility and authority of the parties and key personnel involved with the implementation of the Remedial Action. The Work Plan shall also include a description of qualifications of key personnel directing the

1 Remedial Design, including contractor personnel where identifiable  
2 at this time. The Respondent shall submit the draft Remedial  
3 Design/Remedial Action Work Plan within 30 days of receiving the  
4 Order. The Respondent shall submit a Final Remedial  
5 Design/Remedial Action Work Plan incorporating EPA's comments on  
6 the Draft Work Plan within 30 days of receiving EPA's comments.

7 The Respondents shall present in the Remedial Design/Remedial  
8 Action Work Plan all procedures to be implemented to produce  
9 quality deliverables with technical accuracy.

10 The Respondent shall use quality assurance, quality control,  
11 and chain-of-custody procedures for all environmental samples in  
12 accordance with EPA's "Interim Guidelines and Specifications For  
13 Preparing Quality Assurance Project Plans," December 1980,  
14 (QAMS-005/80); "Data Quality Objective Guidance," (EPA/540/G87/003  
15 and 004); EPA NEIC Policies and Procedures Manual," May 1978,  
16 revised November 1984, (EPA 330/9-78-001-R); "U.S. EPA Region 9  
17 Guidance for Preparing Quality Assurance Project Plans for  
18 Superfund Remedial Projects" (DC NO. 9QA-03-89) September 1989; and  
19 Preparation of a U.S. EPA Region 9 Sample Plan," November 18, 1987;  
20 and subsequent amendments to such guidelines upon notification to  
21 Respondents of such amendment by EPA. Amended guidelines shall  
22 apply only to procedures conducted after such notification.

23 The Respondent shall assure that EPA personnel and its  
24 authorized representatives are allowed access to all laboratories  
25 utilized by the Respondent in implementing the SOW. In addition,  
26 the Respondent shall assure that such laboratories shall analyze

1 all samples submitted to EPA pursuant to the Quality Assurance  
2 Project Plan for quality assurance monitoring. The Respondent  
3 shall ensure that the laboratories utilized for the analysis of  
4 samples taken pursuant to this Scope of Work perform all analyses  
5 according to accepted EPA methods.

6 Accepted EPA methods shall consist of those methods which are  
7 documented in 40 C.F.R Part 136 and Test Methods for Evaluating  
8 Solid Waste, Physical/Chemical Methods (SW 846), including any  
9 additions or revisions to these requirements. Any laboratory  
10 utilized by the Respondent for analysis of samples shall  
11 demonstrate the ability to meet all Performance Standards pursuant  
12 to this Scope of Work, and shall attain a Data Quality Standard of  
13 Level IV. The laboratory shall be capable of producing submittals  
14 of sufficient quality to meet requirements described in the  
15 "Contract Lab Program Statement of Work for Organic Analysis,"  
16 dated February 1988, and any amendments made thereto during the  
17 course of the implementation of this Scope of Work. The Respondent  
18 shall ensure that all laboratories used by them for analysis of  
19 samples taken pursuant to this Scope of Work participate in an EPA  
20 or EPA-equivalent QA/QC program.

21 2. Construction Quality Assurance Plans

22 The Respondent shall identify and document the objectives and  
23 framework for the development of a construction quality assurance  
24 program for the components of the Remedial Action, including but  
25 not limited to the following: responsibility and authority;



1 personnel qualifications; inspection activities; sampling and  
2 analysis requirements; and documentation.

3 a. Responsibility and Authority

4 The Respondent shall describe fully the responsibility  
5 and authority of all parties (e.g., technical consultants,  
6 construction firms, etc.) and key personnel involved in the  
7 construction of the Components of the Remedial Action. The  
8 Respondents shall also identify a Construction Quality  
9 Assurance (CQA) officer.

10 b. Construction Quality Assurance Personnel Qualifications

11 The Respondent shall set forth the qualifications of the  
12 CQA officer and supporting inspection personnel in the CQA  
13 plans with sufficient detail to demonstrate that they possess  
14 the training and experience necessary to fulfill their  
15 identified responsibilities.

16 c. Inspections

17 The Respondent shall summarize in the CQA plans the  
18 observations and tests that will be used to monitor the  
19 construction and/or installation of the components of the  
20 Remedial Action. The plan shall include the scope and  
21 frequency of each type of inspection.

22 d. Documentation

23 The Respondent shall describe in detail in the CQA plans  
24 the reporting requirements for CQA activities. This shall  
25 include such items as daily summary reports, inspection data  
26 sheets, problem identification and corrective measures

1 reports, design acceptance reports, and final documentation.  
2 Provisions for the final storage of all records shall be  
3 presented in the CQA plans.  
4

5 3. Operation and Maintenance Plans

6 The Respondent shall prepare an Operation and Maintenance Plan  
7 to cover implementation and long-term maintenance. The Operation  
8 and Maintenance Plans shall be composed of the following elements:

9 a. Description of normal operation and maintenance (O&M):

10 i. Description of tasks for operation.

11 ii. Description of tasks for maintenance.

12 iii. Description of prescribed treatment or operation  
13 conditions.

14 iv. Schedule showing frequency of each O&M task.

15 b. Description of potential operating problems:

16 i. Description and analysis of potential operation  
17 problems.

18 ii. Sources of information regarding problems.

19 iii. Common and/or anticipated remedies.

20 c. Description of routine monitoring and laboratory testing.

21 The analytes of concern are those listed under Section III of  
22 this Scope of Work, or those required by RCRA and Title 22 and  
23 to be necessary for the proper off-site disposition of  
24 sludges, filter cake, or other concentrates.

25 i. Description of monitoring tasks.

- 1           ii. Description of required laboratory tests and their
- 2           interpretation.
- 3           iii. Required data collection QAPP.
- 4           iv. Schedule of monitoring frequency and date.
- 5           v. Description of triggering mechanisms, action
- 6           criteria, and corrective actions to be performed.
- 7           vi. Description of criteria to be used to activate or
- 8           deactivate pumping wells and for normal operations of
- 9           pumping wells.
- 10          d. Description of Alternative O&M:
  - 11           i. Should any operation aspect of the remedial action
  - 12           fail, the Respondent shall state alternate procedures to
  - 13           prevent release or threatened releases of hazardous
  - 14           substances, pollutants or contaminants which may endanger
  - 15           public health and the environment or exceed discharge,
  - 16           leachate, or performance standards.
  - 17           ii. Analysis of vulnerability and additional resource
  - 18           requirements should a failure occur.
- 19          e. Safety Plan:
  - 20           i. Description of precautions, procedures, action
  - 21           levels, and personnel protective equipment.
  - 22           ii. Safety tasks required in event of systems failure.
- 23          f. Description of equipment
  - 24           i. Equipment identification.
  - 25           ii. Installation of monitoring components.
  - 26           iii. Maintenance of site equipment.

- iv. Replacement schedule for equipment and installed components.
- v. Inventory of replacement parts.
- g. Records and reporting mechanisms required:
  - i. Daily operations logs.
  - ii. Laboratory records.
  - iii. Records for operating costs.
  - iv. Mechanism for reporting emergencies.
  - v. Personnel and maintenance records.
  - vi. Monthly/annual reports to State agencies.

#### 4. Monitoring/Confirmation Sampling Plans

The Respondent shall develop and implement a groundwater monitoring plan as a part of the Remedial Design/Remedial Action Work Plan. The plan shall contain procedures for all activities presented below to demonstrate compliance with cleanup standards through sampling.

Groundwater monitoring shall be performed during all phases of the Remedial Action. EPA may increase monitoring frequency based upon EPA review of the data and after review and comment by the State.

The Monitoring Plan shall be developed in accordance with EPA Region 9 requirements for sampling and analysis and quality assurance plans.

#### 5. Health and Safety Plans

1           The Respondents shall submit revisions to the Health and  
2   Safety Plans to address the activities to be performed at the  
3   facility to implement the components of the Remedial Action.

4   6.   Cost Estimates

5           The Respondents shall refine the cost estimates developed in  
6   the Feasibility Study to reflect the more detailed/accurate design  
7   plans and specifications developed for each component of the  
8   Remedial Action. The cost estimates shall include capital and  
9   operation and maintenance costs.

10  7.   Project Schedules

11           The Respondent shall develop a Project Schedule for  
12   construction and implementation of all components of the Remedial  
13   Action. The schedule shall identify specific dates for initiation  
14   and completion of all deliverables for each component. The  
15   Respondent shall identify approximate dates for completion of the  
16   project.

17  
18  B.   INSPECTION ACTIVITIES

19           Inspections with EPA or its authorized representative in  
20   attendance may be performed to verify compliance with the  
21   environmental requirements of each Component of the Remedial  
22   Action. Upon construction completion, the Respondent shall notify  
23   EPA for the purpose of conducting a final inspection. EPA may  
24   require a Final Inspection which shall consist of a walk-through  
25   inspection of the site project. EPA will confirm that outstanding

1 issues have been resolved, or identify issues still outstanding as  
2 necessary to allow completion of construction.

3 **C. QUARTERLY REPORTS**

4 The Respondent shall submit to EPA, beginning 90 days from the date  
5 of issue of this order, Quarterly Reports. The Quarterly Report  
6 shall present summaries and highlights of work accomplished the  
7 previous Quarter, including all milestones met, work to be  
8 performed in the upcoming Quarter, anticipated problems and  
9 probable solutions. The Quarterly Report shall also contain copies  
10 of all data collected and produced during the previous Quarter.

11  
12 **VII. SCHEDULE AND SUMMARY OF SUBMITTALS**

13	<u>Submittal</u>	<u>Due Date</u>
14		
15		
16	A. <u>Remedial Design/Remedial Action Work Plan</u>	
17	Draft Remedial Design/Remedial Action Work Plan	30 days after
18		effective date of
19		the UAO
20	Final Remedial Design/Remedial Action Work Plan	30 days after
21		receipt of EPA
22		comments on Draft
23		Work Plan
24	B. Quarterly Progress Reports	Quarterly with
25		the initial
26		report to be
27		submitted 90 days
28		from the issue of
29		the Order